--As described above, in etching of an organic low-dielectric-constant film, the main components of the photoresist mask 1 and the organic low-dielectric-constant film 3 are both organic substance and it is difficult to secure the selectivity enough to maintain the etching shape, so that the so-called hard mask method is generally used in which a photoresist pattern is transferred once to an inorganic film 2 such as SiO_2 film and an organic low-dielectric-constant film 3 is etched with the inorganic film 2 employed as the mask.--

Please replace the paragraph beginning on page 7, line 1, and ending on page 7, line 11, with the following paragraph. A marked-up copy of the original paragraph, showing the changes made thereto, is attached.

--As the metal film 12, a pure metal comprising at least one selected from aluminum (Al), copper (Cu), titanium (Ti), cobalt (Co), tantalum (Ta), platinum (Pt), tungsten (W), chromium (Cr), etc. or an alloy thereof may be used. Alternatively, a silicate or nitride of the metal selected from them may also be used. Specifically, tantalum nitride (TaN), titanium nitride (TiN), tungsten nitride (WN), titanium silicon nitride (TiSiN), tantalum silicon nitride (TaSiN), tungsten silicon nitride (WSiN), or the like is referred.--

Please replace the paragraph beginning on page 8, line 8, and ending on page 8, line 13, with the following paragraph. A marked-up copy of the original paragraph, showing the changes made thereto, is attached.

--An oxygen-containing gas, a hydrogen-containing gas, or the like can be used as a gas for etching the organic insulating film 3, but for the reason mentioned below, a nitrogen- or hydrogen-containing gas is preferred.--

Please replace the paragraph beginning on page 8, line 25, and ending on page 9, line 6, with the following paragraph. A marked-up copy of the original paragraph, showing the changes made thereto, is attached.

--As the conductor 8, a pure metal comprising at least one selected from tungsten, copper and aluminum formed by a method such as CVD, sputtering, plating or others or an alloy thereof may preferably be used, and at the interfaces of the conductor 8 with the respective layers 12, 2, 3, 7 and 4, at least one layer of a material selected from TiN, TaN, WN, Ti, Ta, TiSiN, TaSiN, etc. serving as a barrier metal may be interposed.--

Please replace the paragraph beginning on page 10, line 17, and ending on page 11, line 7, with the following paragraph. A marked-up copy of the original paragraph, showing the changes made thereto, is attached.

--Figs. 2A to 2C show Vpp independence of the etch rates of an organic low-dielectric-constant film and an SiO_2 film in an NH_3 plasma in the case of using a surface -wave interfered plasma system (hereinafter, referred to as SIP). As an SIP, the system disclosed in Japanese Patent Application Laid-Open No. 11-40397, U.S. Patent No. 6,497,783 B1 or the like may be used. The term "Vpp" as used herein means a peak-to-peak voltage of a high frequency bias applied to a substrate. When a high frequency bias of not higher than 2 MHZ frequency is applied to the substrate, electrons are accelerated during a half period at the positive side and ions are accelerated during a half

period at the negative side. In other words, Vpp/2 means a maximum value of the voltage for accelerating ions or electrons in a plasma. For example, a case where Vpp/2 is 600 V means that ions are incident on the substrate with a maximum energy of 600 eV.--

Please replace the paragraph beginning on page 12, line 11, and ending on page 12, line 17, with the following paragraph. A marked-up copy of the original paragraph, showing the changes made thereto, is attached.

--As described above, since deterioration in film quality due to the adsorption of oxygen to an organic low-dielectric-constant insulating film is inevitable in the case of using a plasma of an oxygen-containing gas, abnormal film formation might occur because of the desorption of oxygen during the subsequent film forming process for a conductor such as a tungsten plug.--

Please replace the paragraph beginning on page 14, line 8, and ending on page 15, line 2, with the following paragraph. A marked-up copy of the original paragraph, showing the changes made thereto, is attached.

--Consideration based on the results of the above experiments leads to the conclusion that the material most suitable for a hard mask (intermediate layer) in the etching of an organic low-dielectric-constant film using NH_3 gas is a material which is unreactive to an NH_3 plasma and highly suitable to the existing semiconductor production processes. The materials satisfying the above conditions include wiring metals such as Al, Cu, Ti, Co, Ta, Pt, Cr, W, etc. and metal nitrides for the barrier metal such as TiN, WN, TaN, etc. Generally, metal nitrides are high melting point compounds having melting points of 2000°C or more and are stable at very high temperatures (for example, AlN: